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WHAT IS CLAIMED IS:

- A(composition comprising a therapeutic or diagnostic agent and a supramolecular complex, complex comprising as constituents (i) a block copolymer, having at least one nonionic, water soluble segment and at least one polyionic segment, and (ii) at least one charged surfactant having hydrophobic groups, the charge of said surfactant being opposite to the charge of the polyionic segment of said block copolymer, the constituents of said complex being bound by interaction between said opposite charges and between surfactant hydrophobic groups, and with the proviso that when said therapeutic or diagnostic agent is an ionic substance having a net charge opposite to the charge of said block copolymer, the net charge of said therapeutic or diagnostic agent is no more than 10.
- 2. A composition as claimed in claim 1, wherein said therapeutic or diagnostic agent comprises about 0.1 to about 99.9 weight percent of said composition.
- 25 3. A composition as claimed in claim 1, wherein the ratio of the net charge of said surfactant to the net charge of the polyionic segment present in said block copolymer constituent of said complex is between about 0.01 and about 100.
 - 4. A composition as claimed in claim 3, wherein said charge ratio is between about 0.1 and about 10.

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- 5. A composition as claimed in claim 3, wherein the polyionic segment of said block copolymer is polyanionic.
- 6. A composition as claimed in claim 5, wherein the nonionic segment of said block copolymer is selected from the group consisting of polyetherglycols, copolymers of ethylene oxide and propylene oxide, polysaccharides, and homopolymers and copolymers of vinyl compounds selected from the group consisting of acrylamide, acrylic acid esters, methacrylamide, methacrylic esters, N-(2-hydroxypropyl)methacrylamide, vinyl alcohol, vinyl pyrrolidone, vinyl triazole, or the N-oxide of vinylpyridine, polyorthoesters and polyamino acids.
- 7. A composition as claimed in claim 5, wherein said polyanionic segment is selected from the group consisting of polymethacrylic acids and its salts, polyacrylic acid and its salts, copolymers of methacrylic acid and its salts, copolymers of acrylic acid and its salts, heparin, poly(phosphate), polyamino acid, polymaleic acid, polylactic acid, nucleic acid or carboxylated dextran.

wherein said polyanionic segment is a homopolymer or a co-polymer prepared from a monomer which polymerizes to form a product with carboxyl pendant groups, said monomer being selected from the group consisting of acrylic acid, asparatic acid (amino acid), 1,4-phenylenediacrylic acid citraconic acid, citraconic anhydride, trans cinnamic acid, 4-hydroxy-3-methoxy cinnamic acid, p-hydroxy cinnamic acid, transglutaconic acid, glutaminc acid (amino acid), itaconic acid, linoleic acid, linolenic acid, methacrylic acid,



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maleic acid, maleic anhydride, mesaconic acid, trans- β -hydromuconic acid, trans-trans muconic acid, oleic acid, ricinoleic acid, 2-propene-1-sulfonic acid, 4-styrene sulfonic acid, trans-traumatic acid, vinylsulfonic acid, vinyl phosphate acid, vinyl benzoic acid, vinyl glycolic acid.

- 9. A composition as claimed in claim 5, wherein said surfactant is selected from the group consisting of lipophilic quaternary ammonium salts, lipopolyamines, lipophilic polyamino acids, lipophilic primary-, secondary-, tertiary- and heterocyclic amines, lipophilic imidazoles, lipophilic piperidinium salts, lipophilic quinaldinium salts, lipophilic azonium and azolium salts, pH-sensitive cationic lipids, dicationic bolaform electrolytes or a mixture of said surfactants.
- 10. A composition as claimed in claim 5, 20 further including a nonionic surfactant.
 - 11. A composition as claimed in claim 10, wherein said nonionic surfactant is selected from the group consisting of dioleoyl phosphatidylethanolamine, dioleoyl phosphatidylcholine, or a mixture of said nonionic surfactants.
 - 12. A composition as claimed in claim 3, wherein the polyionic segment of said block copolymer is polycationic.
 - 13. A composition as claimed in claim 12, wherein said polycationic segment is selected from the group consisting of polyamino acid, alkanolamine esters of polymethacrylic acid, polyamines, polyalkyleneimines, polyvinyl pyridine and quaternary



ammonium salts of said polycationic segments.

comprising an anionic surfactant selected from the group consisting of alkyl sulfates, alkyl sulfonates, fatty acid soaps, salts of hydroxy-, hydroperoxy-, polyhydroxy-, epoxy- fatty acids, salts of mono- and polycarboxylic acids, prostanoic acid and prostaglandines, leukotriens and lipoxines, alkyl phosphates, alkyl phosphonates, lipids, sodium-dialkyl sulfosuccinate, n-alkyl ethoxylated sulfates, cholate and desoxycholate of bile salts, perfluorocarboxylic acids, fluoroaliphatic phosphonates, fluoroaliphatic sulphates.

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15. A composition as claimed in claim 1, in the form of vesicles, said vesicles having an internal volume containing said therapeutic or diagnostic agent.

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16. A composition as claimed in claim 1, wherein said therapeutic or diagnostic agent is a charged species, having a positive or negative charge.

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17. A composition as claimed in claim 17, wherein said therapeutic or diagnostic agent is a constituent of said supramolecular complex.

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18. A composition as claimed in claim 1, whrein said therapeutic or diagnostic agent is selected from the group consisting of analgesic agents, anti-inflamatory agents, antibacterial agents, antiviral agents, antifungal agents, antiparasitic agents, tumoricidal or anti-cancer agents, proteins, toxins, enzymes, hormones, neurotransmitters, glycoproteins, immunoglobulins, immunomodulators,



dyes, radiolabels, radio-opaque compounds, fluorescent compounds, polysaccharides, cell receptor binding molecules, anti-glaucomic agents, mydriatic compounds and local anesthetics.

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